

Waterford 11244.05 Bid Information

Material Notes for Outlet Swale Construction

The following list of items provides the estimated quantities for use on this project.

20 yds of "Fieldstone Cobble"
40 yds imported fill material for embankment
6 evergreen shrubs (3-4' Rhododendron)
60 perennial plants (see below) for your estimate.

The scientific name of the plant material is provided along with the common name in parenthesis.

Description	Unit	Quantity
Denneaedtia punctilobula (Hayscented Fern)	#.5 Can	10
Iris versicolor (Blue Flag Iris)	Lg Bareroot Clump	15
Juncus Canadensis (Canada Rush)	Bareroot	10
Lobelia cardinalis (Cardinal Flower)	#.5 can	15
Osmunda cinnamomea (Cinnamon Fern)	#.5 Can	10

General Notes for Outlet Swale Construction

1. A Preconstruction field review shall occur between Zach Henderson (207-626-0613) and the Contractor.
2. The Contractor shall notify Zach Henderson seven days prior to beginning any work.
3. The Department shall secure all necessary permits and Utility (DigSafe) notification.
4. Access and project limits shall be flagged in the field by the Department. Repair of property damage beyond designated Work area shall be the responsibility of the Contractor.
5. Suitable material taken from excavation shall be used in the construction of embankment and for backfilling as indicated on the plans, or as directed, except that if the volume of suitable excavated material exceeds that required to construct the embankments to the grades indicated, the excess shall be used as directed or wasted. Unsuitable or surplus material shall be disposed of as directed.
6. The layer method will be required to construct the earth embankment for the swale. Unless otherwise approved the material shall be deposited and spread upon compacted material in full width layers not more than 8 in. in depth, loose measure. The compacting operations shall be continued until each layer is compacted to its full depth and width.
7. The Contractor shall comply with the Erosion and Sedimentation Control Plan as specified in this plan.

8. The Contractor shall guarantee survival of all plant material for 1 year after completion of Work.
9. Seed Mixtures shall consist of seed proportioned percent by weight as follows:
DOT Method #1 - Park Mixture includes Creeping Red Fescue 45%, Kentucky Bluegrass 25%, Chewings Fescue 15%, Perennial Ryegrass 10%, Annual Ryegrass 5%.
10. Hay mulch shall consist of long fibered hay, reasonably free from weeds and other undesirable material. No material shall be used which is so wet, decayed or compacted as to inhibit even and uniform spreading. No chopped hay, grass clippings, or other short fibered material shall be used unless directed.

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL PLAN

Schedule and Sequence for Soil Disturbance Activity

The work is anticipated to be done between June 2006 and July 2006. Project Completion Date: July 1, 2006.

Early June 2006

Perimeter Erosion and Sediment Control Berm

June 2006

Excavation of Swale and Berm

Placement of crushed stone and fieldstone

Erosion Control Mix placement on backslope and berm

Vegetation Planting

Remove Temporary Erosion Control

Hay Mulch and Seed all disturbed areas

Responsibility of the Contractor

The Contractor shall provide continuous and effective temporary soil erosion and water pollution control for the Project.

General Water Pollution Control Requirements

The Contractor must provide all of the following requirements applicable to water pollution control.

a. The Contractor must comply with the applicable federal, state, and local laws, and regulations relating to prevention and abatement of water pollution.

b. Except as allowed by an approved permit or otherwise authorized by the Department in writing, pollutants and construction debris including excavated material, aggregate, fuels, lubricants, bitumens, wood chips, and other debris shall not be discharged into waterbodies, wetlands, or natural or man-made channels leading thereto and such materials shall not be located alongside waterbodies, wetlands, or such channels such that it will be washed away by high water or runoff.

c. The Contractor shall not work in a wetland, except as allowed by a specific permit provision. The Contractor shall not store or stockpile materials in a wetland. The Contractor

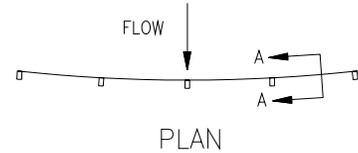
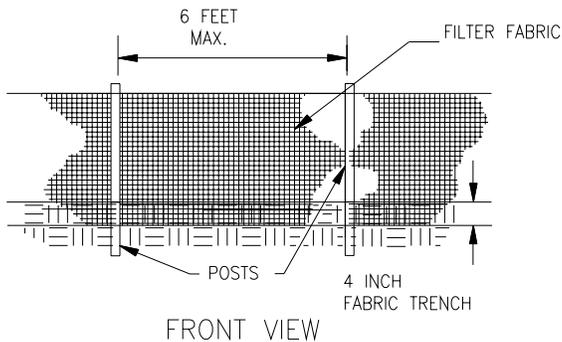
shall contain and immediately remove from the wetland or waterbody any debris generated by the Work.

d. All sites of disturbed soil outside the project area such as staging areas, Equipment storage sites, shall be graded smooth, loamed, seeded, and mulched upon completion of the work.

Temporary Erosion and Sediment Control

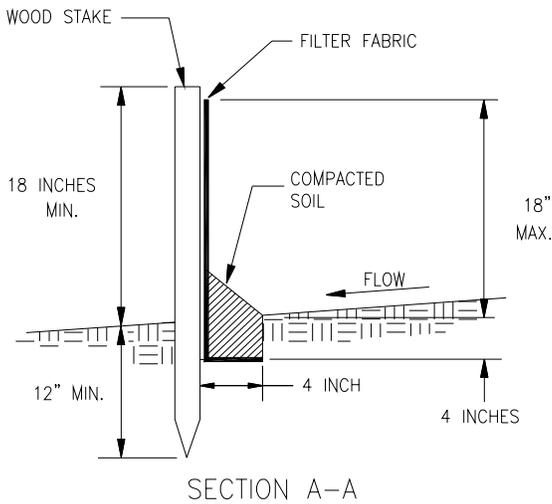
The following are components of the temporary erosion and sediment control for the site during stormwater improvements.

- Erosion Control Mix Berm



NOTES:

1. FILTER BARRIER SHALL BE CONSTRUCTED LONG ENOUGH TO EXTEND ACROSS THE EXPECTED FLOW PATH FROM DISTURBED AREA.
2. FILTER FABRIC SHALL BE PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN WITH A MINIMUM TENSILE STRENGTH OF 50 LBS. PER LINEAR FOOT AT 20 PERCENT MAXIMUM ELONGATION AND CONTAINING ULTRAVIOLET INHIBITORS. FILTER FABRIC SHALL RETAIN A MINIMUM OF 85% OF THE SOIL, BY WEIGHT, BASED ON SIEVE ANALYSIS, BUT IS NOT FINER THAN AN EQUIVALENT OPENING SIZE OF 70.
3. SUPPORT POSTS SHALL BE A MINIMUM 30 INCH LONG WOOD POSTS OR STEEL FORM STAKES DRIVEN A MINIMUM OF 12 INCHES INTO THE GROUND. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART.
4. A 4 INCH FABRIC TRENCH SHALL BE EXCAVATED ALONG THE UPHILL SIDE OF FILTER BARRIER POSTS. THE BOTTOM EDGE OF THE FABRIC SHALL EXTEND TO AND ACROSS THE BOTTOM OF THE TRENCH. THE TRENCH SHALL BE BACKFILLED TO 4 INCHES ABOVE GROUND AND COMPACTED TO BURY AND SECURE THE BOTTOM OF THE FILTER FABRIC.
5. CONTRACTOR SHALL MAKE INSPECTIONS WEEKLY DURING THE WET SEASON, MONTHLY DURING THE DRY SEASON AND IMMEDIATELY AFTER EACH RAINFALL TO DETERMINE IF REPAIRS AND SEDIMENT REMOVAL IS REQUIRED. SEDIMENT SHALL BE REMOVED BEFORE IT HAS REACHED ONE THIRD THE HEIGHT OF THE FILTER FABRIC.



The perimeter of the construction area (as flagged) will be protected with an erosion control mix (ECM) berm as illustrated below. Upon completion of the project, excessive accumulation of material behind the berm shall be removed and the disturbed area seeded and mulched. The berm shall be reshaped upon completion of the swale armoring and placement of erosion control mix on the project areas.

- Temporary Storage and Placement of Aggregates

All aggregates used for stormwater management systems should be stored within the ECM protected area or in another suitable location to avoid the potential for accumulated sheet flow to mobilize any fines associated with the material.

- Removal of Excavated Materials

All material excavated for the swale should be used within the berm, placed in designated locations with the lawn area or disposed of as required at a location off-site on the same day as excavated. All placed soil areas shall be seeded and hay mulched at the completion of the work day. No excavated material will be stored in unprotected areas on the site.

- Drainage Area Stabilization

The drainage swale shall be constructed in a way to prevent scour of unprotected site soils.

- Temporary and Permanent Mulching

All disturbed areas will be mulched on a daily basis. All permanent stabilization, including seeding, of these areas will be completed within one week of the last soil disturbance. There will be no overnight storage of soil fill on the site.

- Sequencing of Excavation

If possible, excavation of stormwater management systems should be accomplished so that individual elements can be complete before moving on to the next individual element. No open excavated areas should be left overnight.

- Duration of Contractor's Responsibility

The Contractor shall provide temporary soil erosion and water pollution controls and maintain all permanent control features until Acceptance of the Work. Once final surface treatments are established, the Contractor is responsible for removal or redistribution of all temporary sedimentation control practices such as the erosion control mix.

Spill Protection and Prevention Measures

All refueling, if on-site, should take place in an identified area as agreed upon by the contractor and project manager. The refueling area should have a spill prevention kit available at all times. No emptying or changing of petroleum products or other materials considered hazardous will occur over soil. All handling of materials considered hazardous will occur within the refueling area. The site supervisor should implement routine inspections of all equipment on site for excessive leaks. The site supervisor should have a spill prevention kit available at the site.